



MOTIVE POWER

SERVICE MANUAL

i'ME NASA Fi
風格



X-HOT



MODEL notes

* this manual suitable for B1(LIBRA, I'ME)
and B2(X-HOT);

B1(LIBRA, I'ME)



B2(X-HOT)





INDEX

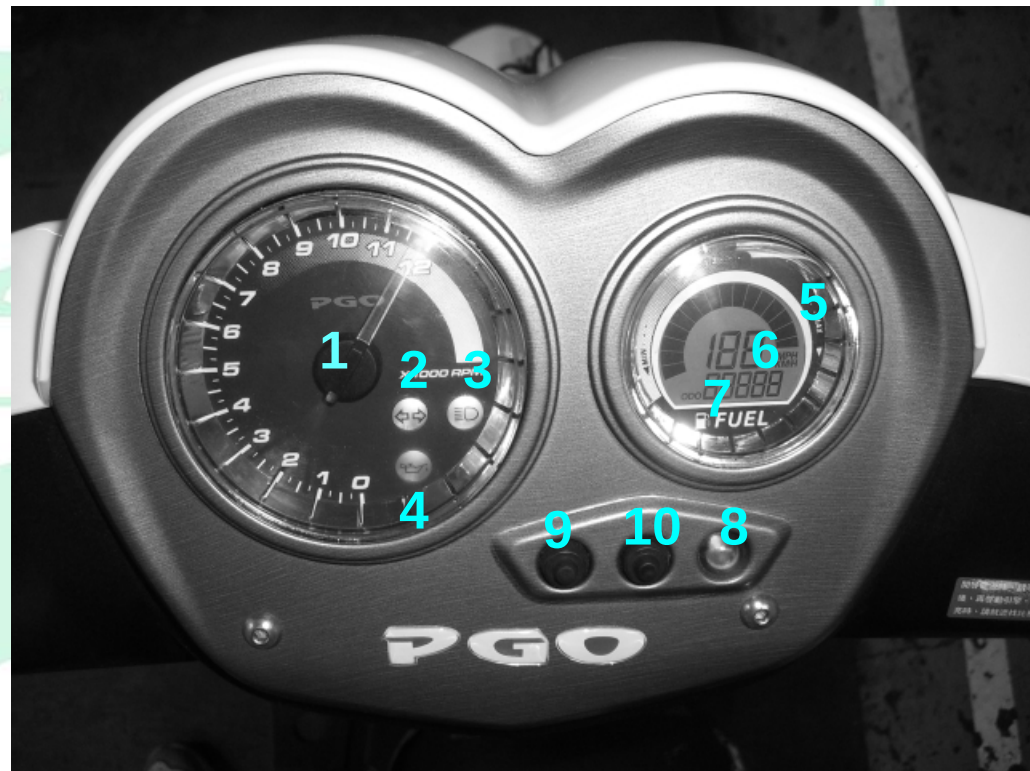
- ◇ PDI & OPERATION
- ◇ REPAIR & MAINTENANCE
- ◇ Engine Management System
- ◇ Electric system

PDI & OPERATION



speedometer=B1

1. Engine speed
2. Signal indicator
3. High beam indicator
4. Oil warning lamp
5. Fuel gauge indicator
6. velocity
7. ODO/TRIP
8. EMS check
9. SELECT
10. ADJUST





speedometer=B1

function mode	key	display	SELECT	ADJUST	result
Vehicle speed	ON	km	Click		Mile
		mile	Click		Km
(ODO) / (TRIP) switching	ON	ODO		Click	TRIP
		TRIP		Click	ODO
Reset (TRIP)	ON	TRIP		Click 3 sec.	Reset TRIP to 0
Reset (4T oil indicator)	ON	Forever ON	Click 3 sec.		twinkle
		twinkle		Click 3 sec.	OFF
Cancel Reset (4T oil indicator)	ON	twinkle	Click		Forever ON



EMS check=B1

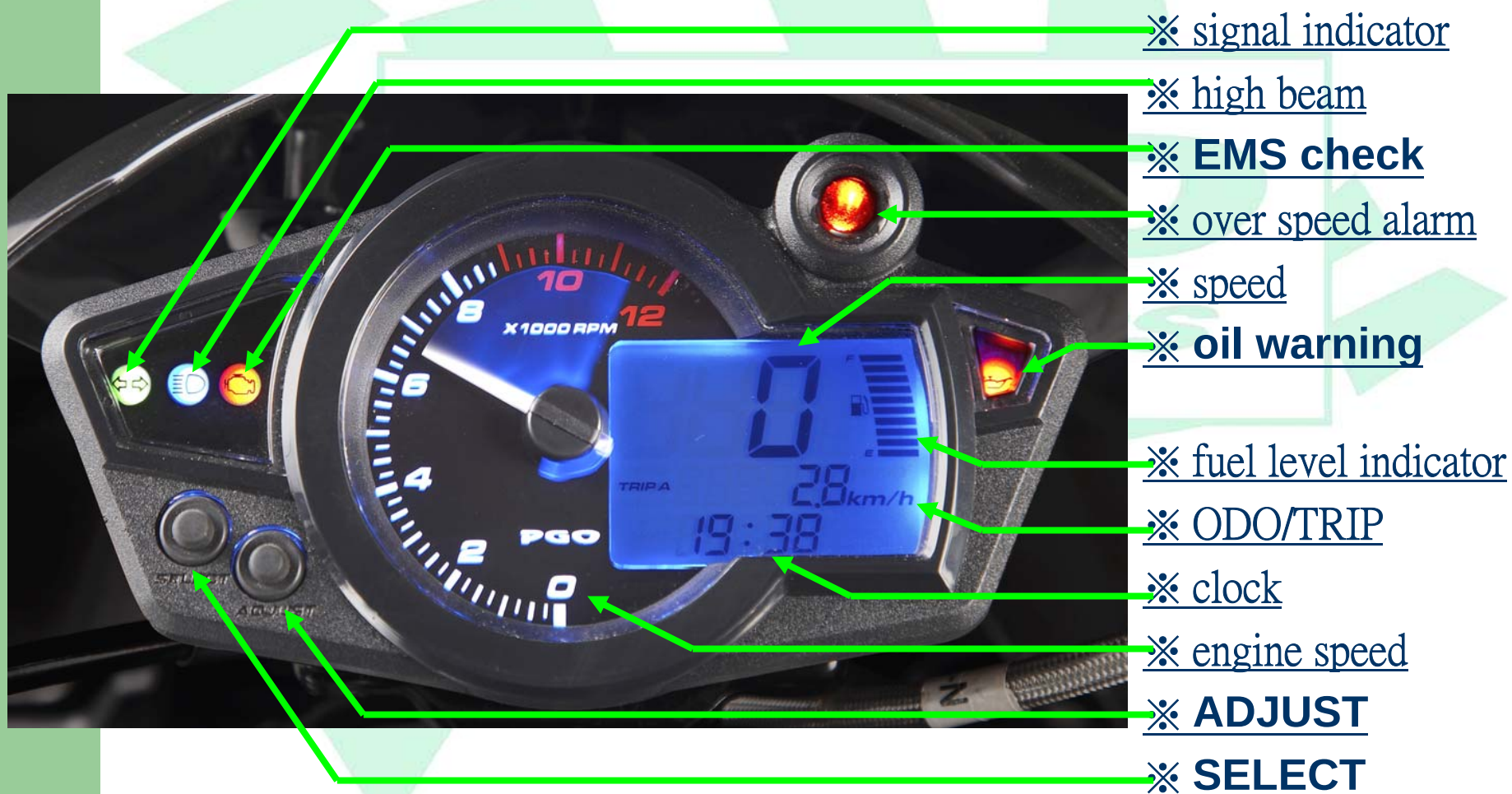
1. turn on main key
2. light on: self test for about 5 seconds
3. light off, could start the engine

* if EMS check light on during driving, find PGO dealer to inspect as soon as possible.





speedometer=B2





speedometer(A)=B2

function mode	key	display	SELECT	ADJUST	result
Vehicle speed	ON	km	Click		Mile
		mile	Click		Km
(ODO) / (TRIP) switching	ON	ODO		Click	TRIP
		TRIP		Click	ODO
Reset (TRIP)	ON	TRIP		Click 3 sec.	Reset TRIP to 0
Reset (4T oil indicator)	ON	Forever ON	Click 3 sec.		twinkle
		twinkle		Click 3 sec.	OFF
Cancel Reset (4T oil indicator)	ON	twinkle	Click		Forever ON



speedometer(B)=B2

function mode	key	display	SELECT	ADJUST	result
Vehicle speed(#8)setting	ON	normal	Click 3 sec.	Click 3 sec.	Speed twinkle
		twinkle		Click	30~199 increasing
		twinkle	Click 3 sec.		Switch setting
clock(#12)setting	ON	Hour twinkle		Click	0~23 increasing



speedometer=B2

- 1.turn on main key
- 2.light on: self test for about 5 seconds
- 3.light off, could start the engine



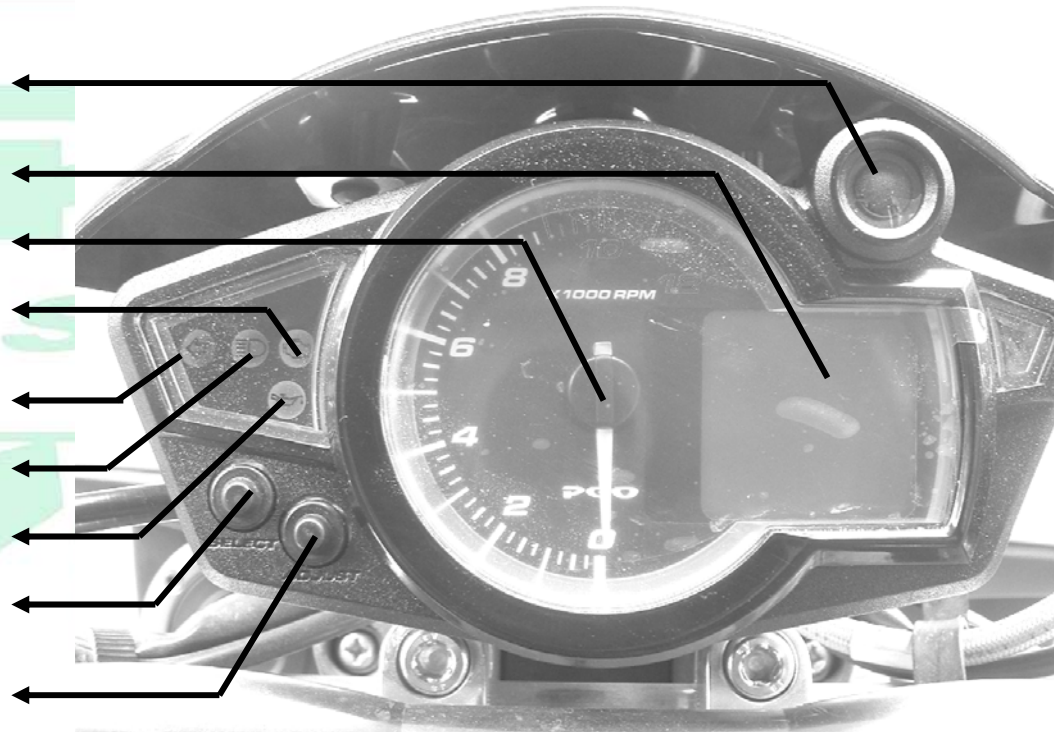
* if EMS check light on during driving, find PGO dealer to inspect as soon as possible.



speedometer=B2-150

8.4 Function of Dashboard

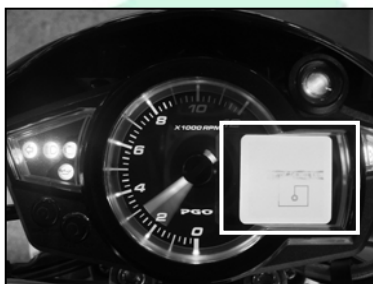
1. over speed alarm
2. STN LCD
3. RPM
4. EMS check
5. signal indicator
6. high beam
7. oil warning
8. SELECT
9. ADJUST





speedometer=B2-150

- Basic mode



STN LCD



speed TRIP ↔ ODO : click ADJ to switch
 Mileage under TRIP , press ADJ to reset TRIP
 under ODO ,press ADJ to switch MPH&KMH

Click SELECT



Speed & fuel

Click SELECT



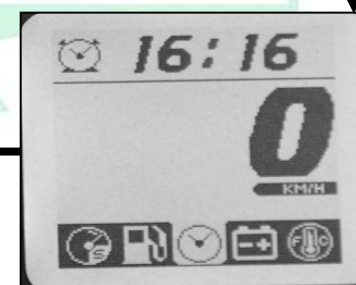
Speed & ambient
 temperature
 press ADJ to switch(°C) & (°F)

Click SELECT



Speed &
 battery voltage

Click SELECT



Speed & time

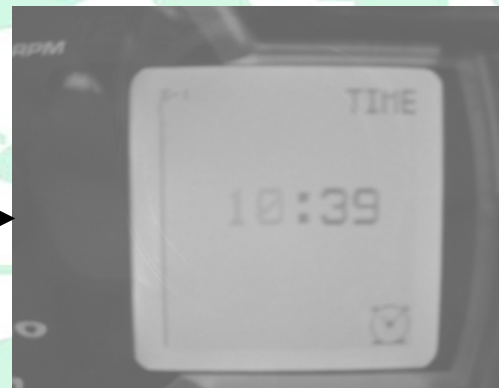


speedometer=B2-150

- Setting (system will escape from setting mode when standby longer than 10 seconds)



Press SEL&ADJ at the same time for 3 seconds



Time setting mode:
Click SEL to switch hour & minute
Click ADJ to change digitals

Click
SELECT



Over speed mode:
Press ADJ to adjust speed limit



speedometer=B2-150

- POWER TEST mode



Click ADJ & SEL within 3 seconds,
Into POWER TEST mode:
Click SEL to start test.



0~100 KM/h test:
Start test whenever
vehicle move
Click ADJ to reset

Click
SELECT to
switch

Long Press
SELECT to
main menu



0~400m test:
Start test whenever
vehicle move
Click ADJ to reset

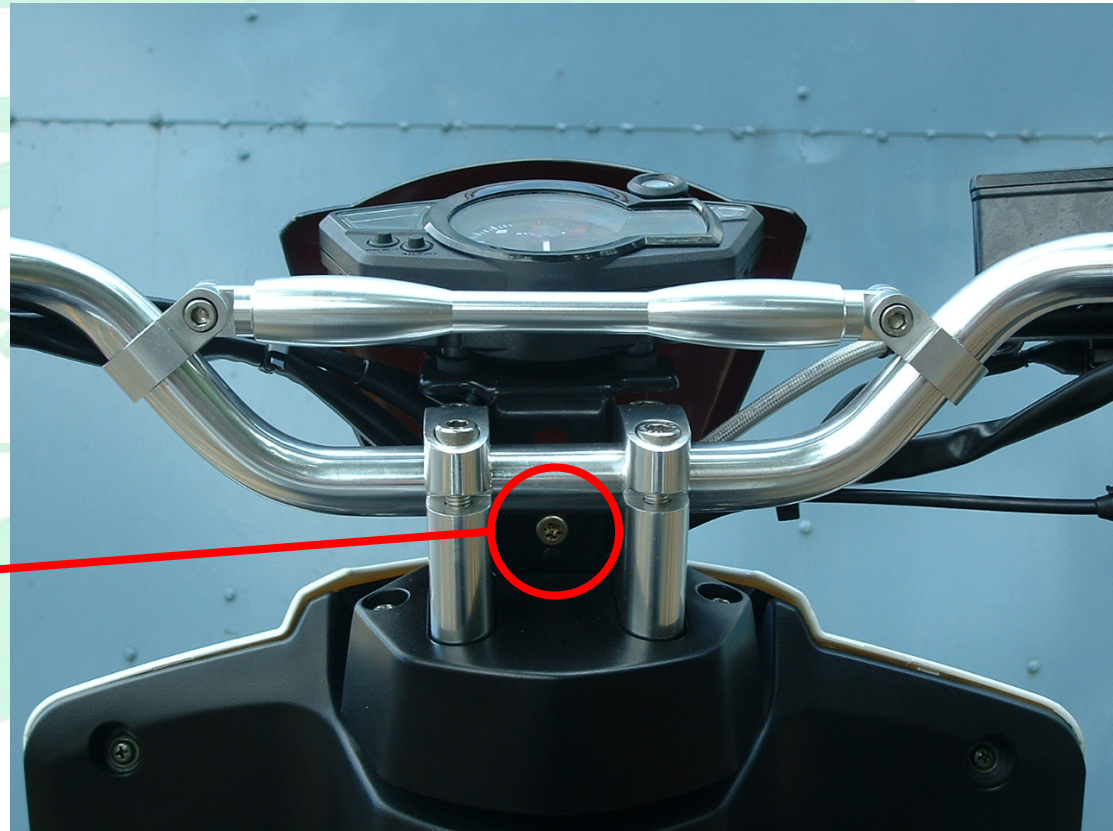
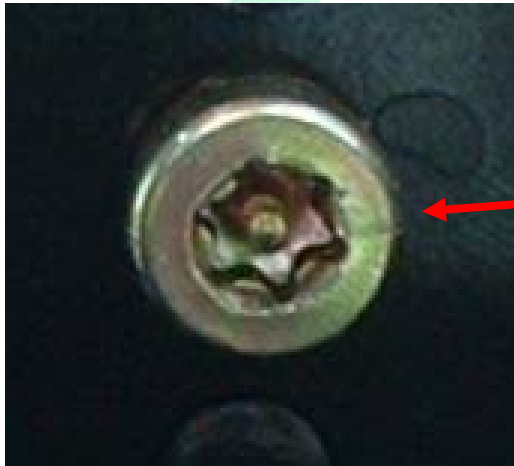


Special bolt of steering cover=B2

1.used for fixing steering cover

Anti-thief purpose

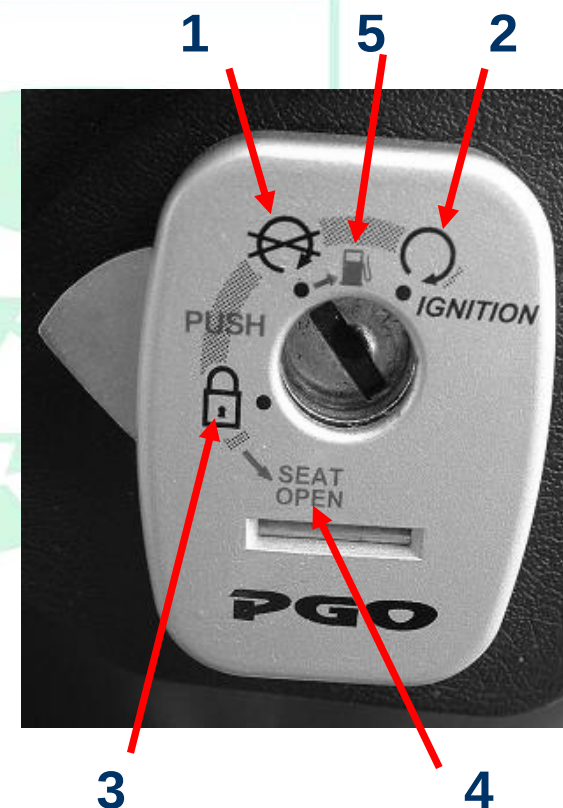
spec. : T30 star type





Main key

1. All the power is cut off, the key can be pulled out at this position.
 2. The power is ON, engine can be started, the key can not be pulled out at this position
 3. The handle bar is locked at this position.
 4. “Push + turn counterclockwise”:
to open the seat.
 5. When at position #1, “Push + turn clockwise” to open the fuel cap.
 6. For anti-thief purpose, push to close the core of key set,
 7. Press the key to get anti-thief key out.
- Push the anti-thief key into position #8, then the core of key set will open again

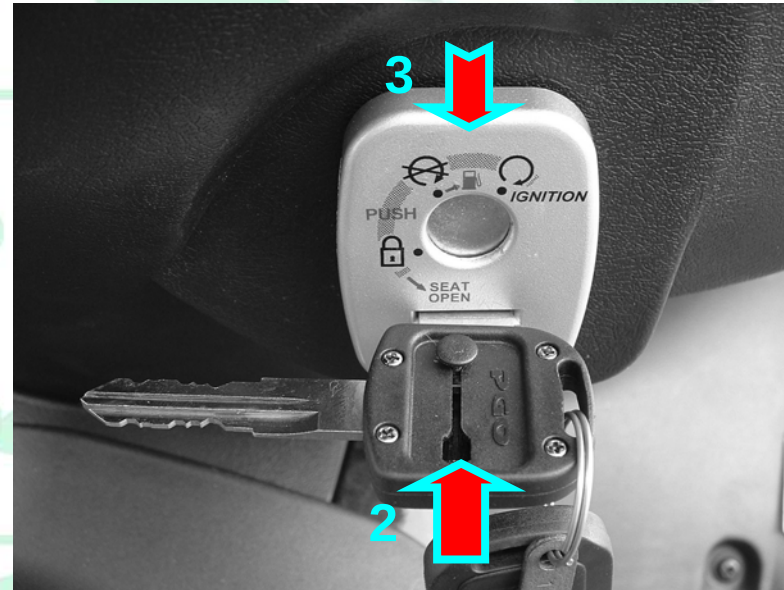




Main key



1. For anti-thief purpose, push to close the core of key set,



2. Press the key to get anti-thief key out.

3. Push the anti-thief key into position, then the core of key set will open again

Precaution before Delivery Inspection

Motive Power Industry Co.,Ltd

Check List before Delivery

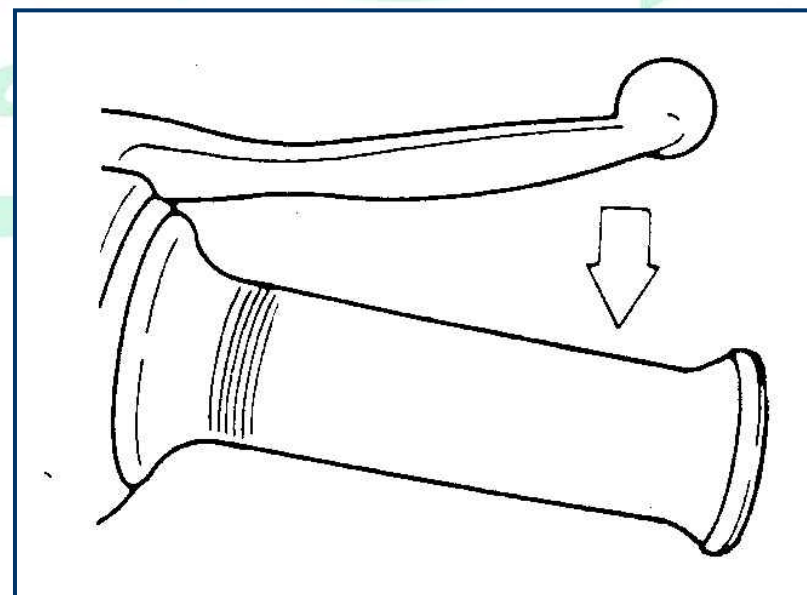
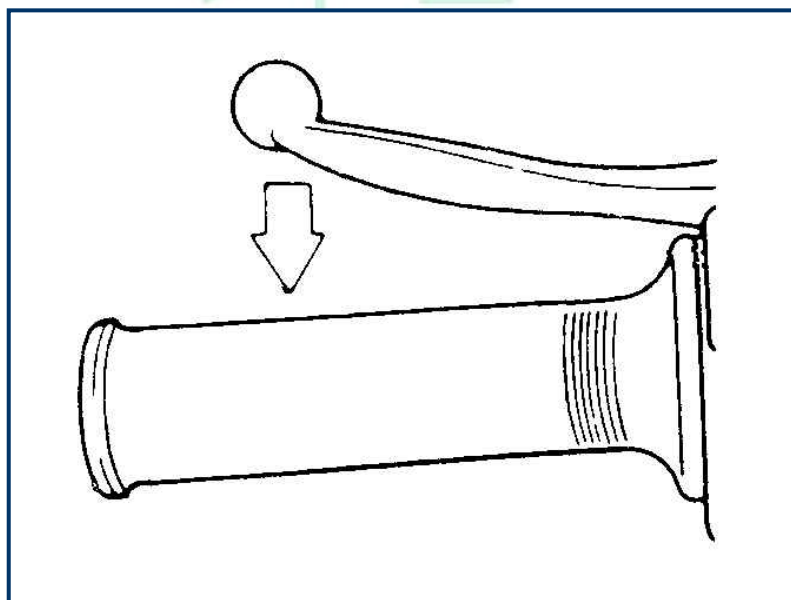
Name :		Tel :		Age :		Sex :	
Address :							
Dealer :		Model :		Engine No :			
delivery date :		Year	Month	day			
NO	Check Item	Y	N	NO	Check Item	Y	
1	Steering of Handle Bar			7	Tire Pressure		
2	Gap of Brake Lever			8	Confirm Engine No & Document		
3	Lights and Horn			9	User's Manual		
4	Fuel Tank and Fuel Kind			10	Operating Method Introduction		
5	Engine Oil			11	Periodic Maintance Introduction		
6	Disk Brake fluid			12	Warranty Introduction		
Signature :				Customer Sign :			
Suggestion :							
※Please Sign both Customer & Service Staff.							
※Mail this chart to Agent, and then The Warranty Effective.							



Precaution before delivery

- brake lever

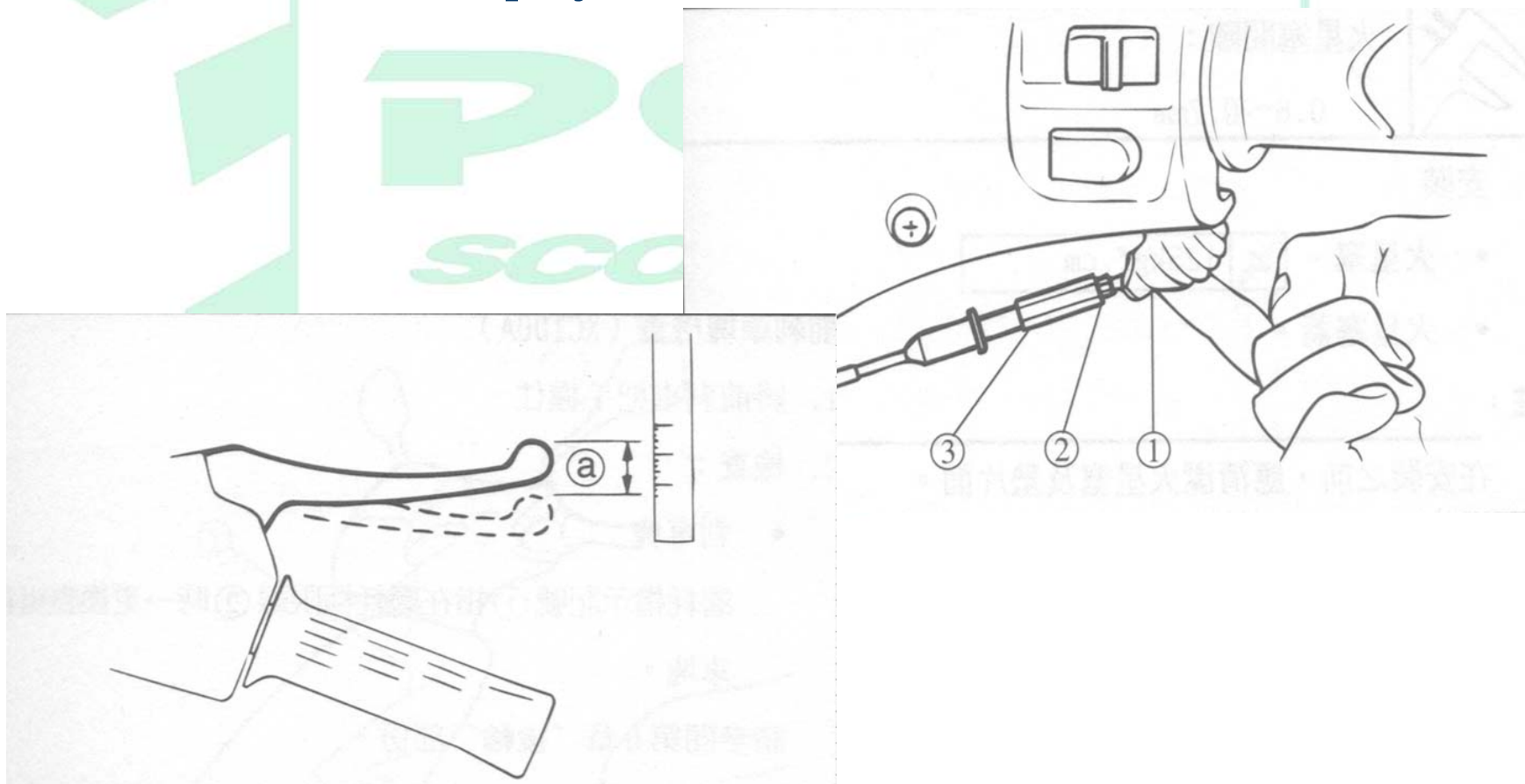
Free play: 10 to 20 mm





Precaution before delivery

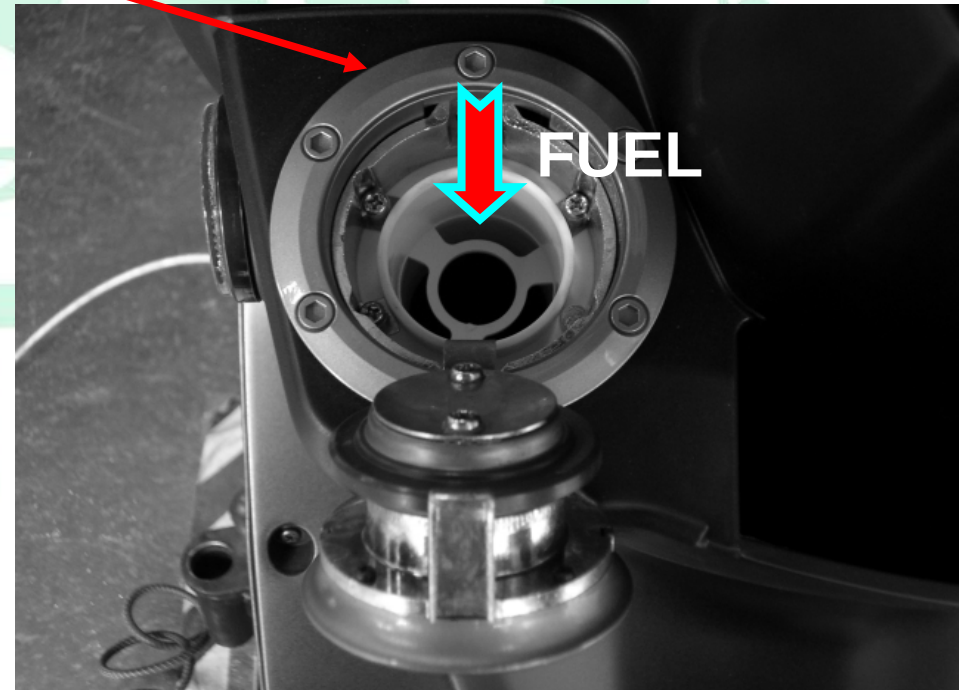
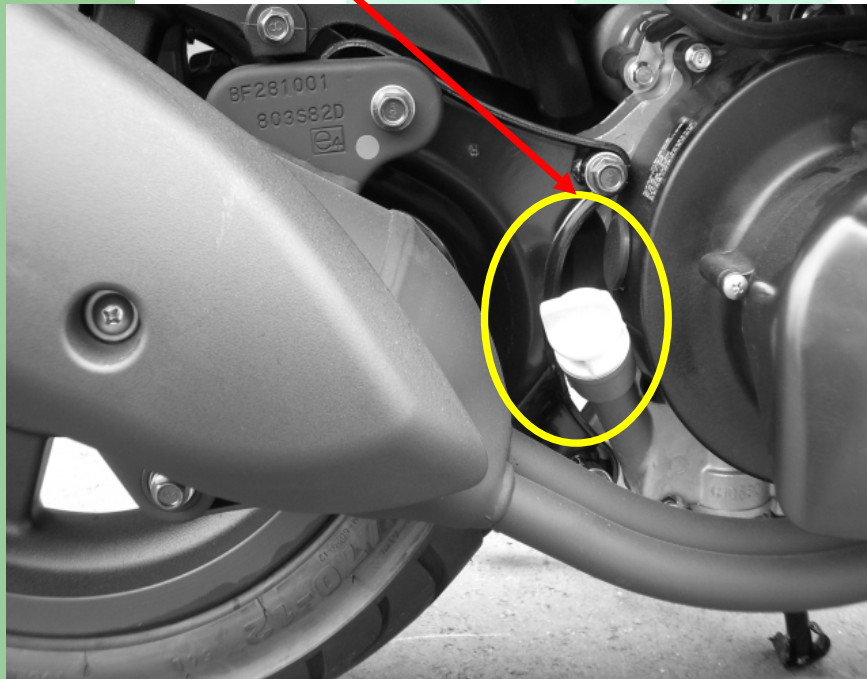
- Front brake lever
Free play: 10 to 20 mm





Precaution before delivery

- oil & fuel



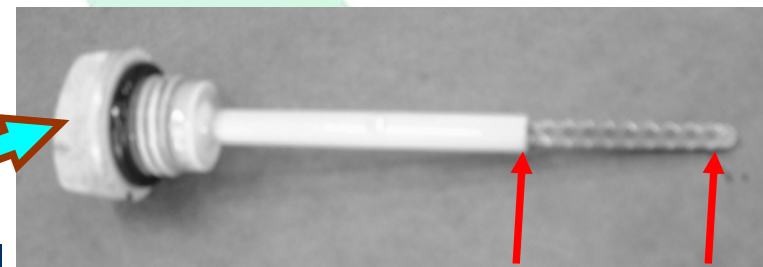
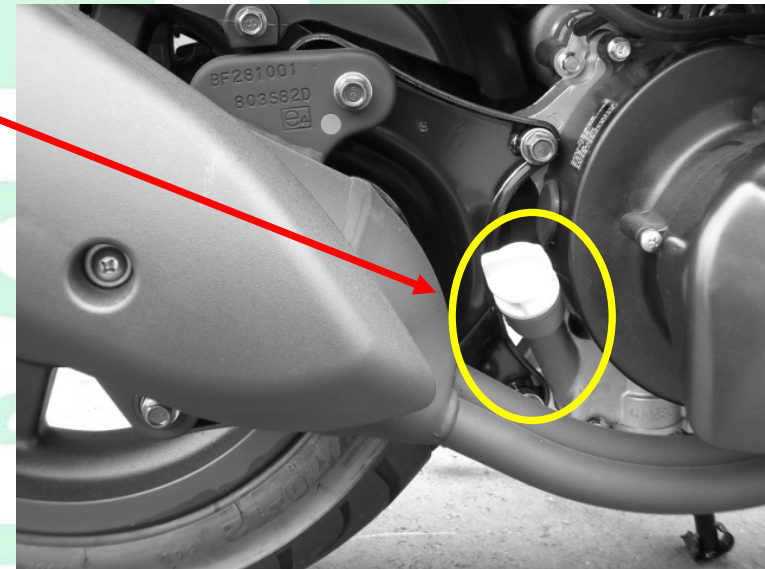


Measure the oil level

**Oil gauge & filling cap
replace 800cc
total 1000cc**

Inspect the oil level :

- 1.park the vehicle on flat surface**
- 2.warm up the engine ~3 minute**
- 3.cease engine ~3 minute**
- 4.take off the oil gauge, clean it**
- 5.screw it to bottom**
- 6.take off the oil gauge**
- 7.fill the oil to top level if oil level is lower than low level**



top

low



Precaution before delivery

- Brake oil





Tire pressure

1. park the vehicle on flat surface with central stand
2. find the valve at right side
3. measure the pressure

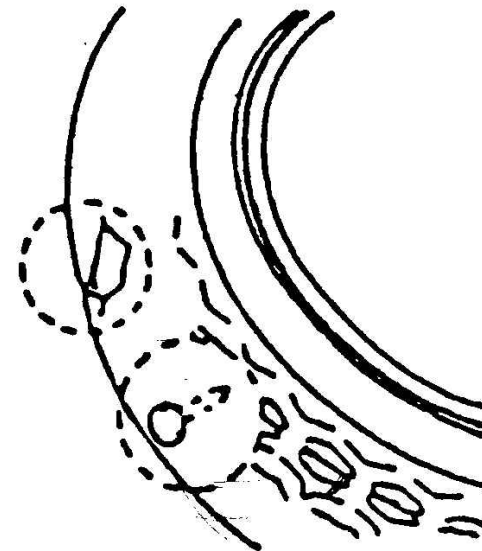
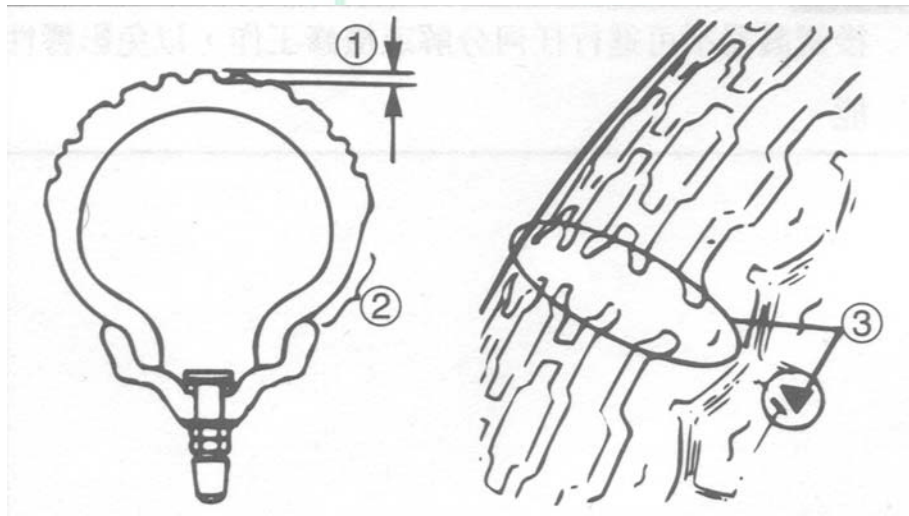




Precaution before delivery

- tire

Tire pressure: 2.0 kgf/cm² front, 2.0 kgf /cm² rear



PERIODICAL MAINTENANCE TABLE

In order to achieve safe riding, good performance and reduce pollution, please execute the recommended maintenance accordingly.



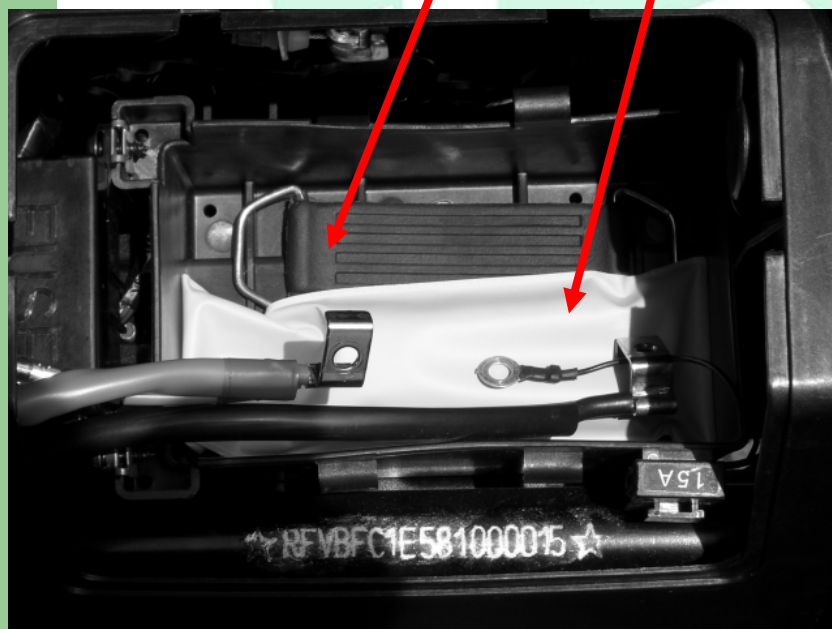
PERIODICAL MAINTENANCE TABLE

Item	Checking Content	MONTHS/DISTANCE(IN KM)FOR CHECKING						
		1 or 300 km	3 or 3000k	6 or 5000k	9 or 8000k	12 or 10000k	15 or 13000k	18 or 15000k
Engine oil*	Replace (800cc, total 900cc)	○	Replace it per 1000km					
Oil Filter	Replace	○	Clean it per 5000km or replace it if required					
Coarse oil filter* (on oil draining)	Clean or replace it if necessary	○	Clean it per 3000km or replace it if required					
Air cleaner	Clean or replace it if necessary		○	○	○	○	○	○
Air filter	Clean or replace it if required		○	○	○	○	○	○
Gear oil*	Replace (90cc, total 110 cc)	○	○		○		○	
Disk & drum brake	Leaking and function check		○	○	○	○	○	○
Clutch shoes*	Check or replace it if necessary		○	○	○	○	○	○
Rear brake arm	Function check and adjustment			○		○		○
Tires	Worn-out check or replace it if necessary		○	○	○	○	○	○
Wheel bearing*	Fasten tightly if loosen		○	○	○	○	○	○
Front fork*	Leaking and function check	○	○	○	○	○	○	○
Steering head bearing*	Check looseness. Adjust it if required			○		○		○
Rear absorber*	Leaking and function check	○	○		○		○	
Main/Side Stand	Function check or replace it if required	○	○	○	○	○	○	○
Nuts, bolts, fasteners	Tighten it if required	○	○	○	○	○	○	○
Battery	Make sure that the voltage stayed over 12.8V. Recharge the battery it required.		○	○	○	○	○	○
	Clear the poles.		○	○	○	○	○	○
Valve gap*	Check and adjust when engine is cool (0.08mm for IN & EX)	Adjust it when necessary						
Spark plug*	Clear or replace if required		○	○	○	○	○	○
V belt*	Worn out check or replace if necessary.			○	A	○	A	○
Fuel feeding system*	Crack and blockage check. Replace it if necessary.			○		○		○
Engine idle speed*	4T engine: 1700±100 rpm	○	○	○	○	○	○	○
Carburetor idle A/F Adjustment*	Check and adjust referring to CO/HC Percentage.	○	○	○	○	○	○	○

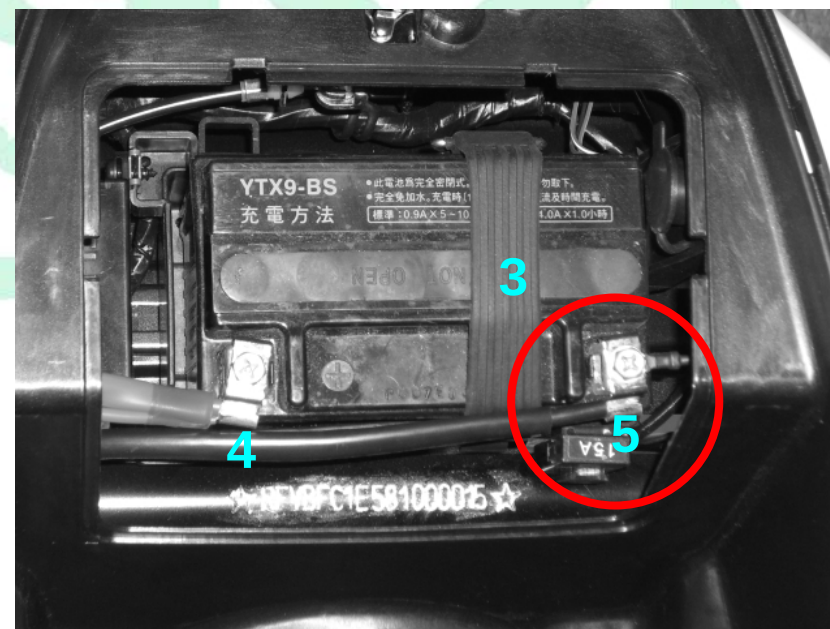


Install battery

1. open the battery cover
2. take out the band, tool set



3. install battery, fix with band
4. fix positive cable
5. fix negative cable

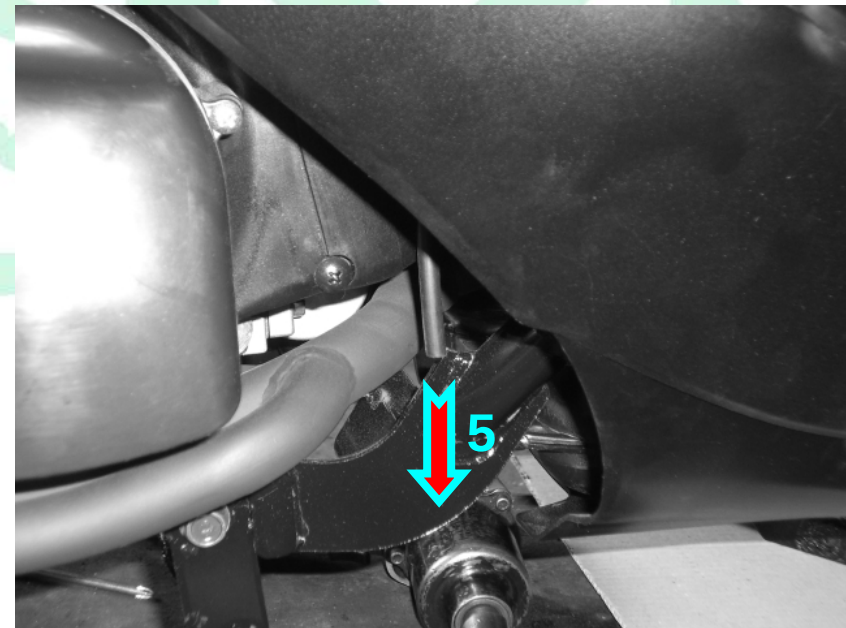
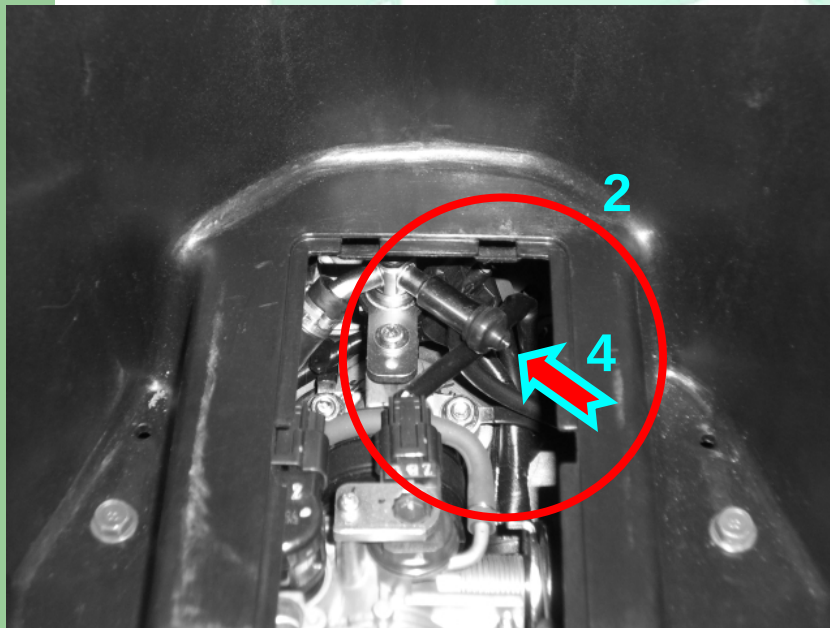




Drain the residual fuel & air

1. dismantle the under cover
2. find the drain valve
3. turn on the key

4. press the drain valve, fuel drained & air bleed
5. repeat #3~#4, until fuel is clean





Time to use drain valve

* timing

1.brand new vehicle after assembly

2.long time storage

3.stored more than 2 weeks of used
vehicle

4.replace fuel pump, fuel hose,
injector



Maintenance & repair

- ◇ lock torque
- ◇ maintenance table
- ◇ consuming parts
- ◇ EMS system
- ◇ CVT transmission
- ◇ plastic parts dismantle & install

The background of the slide features a large, light green checkered flag pattern. In the center, there is a white rectangular box with a thin green border. Inside this box, the text "PGO SCOOTERS" is written in a large, light green, sans-serif font. Overlaid on this box is the text "Lock torque" in a dark blue, serif font.

Lock torque



General lock torque

* general lock torque of bolts, nuts:

item	lock torque
5mm bolt	0.4~0.6 kg-m
6mm bolt	0.8~1.2 kg-m
8mm bolt	1.8~2.5 kg-m
10mm bolt	3.0~4.0 kg-m
12mm bolt	5.0~6.0 kg-m
6mm nut	1.0~1.4 kg-m
8mm nut	2.0~3.0 kg-m
10mm nut	3.0~4.0 kg-m



Engine important parts lock torque

* engine parts

item	lock torque
spark plug	1.2~1.3kg-m
cyl. Head cover	0.9~1.1kg-m
valve adjustment	0.6~0.8kg-m
cyl. Head nut	2.0~2.4kg-m
one-way clutch	5.0~6.0kg-m
flywheel	5.0~6.0kg-m
driving face	5.0~6.0kg-m
clutch outer	5.0~6.0kg-m



Chassis important parts lock torque

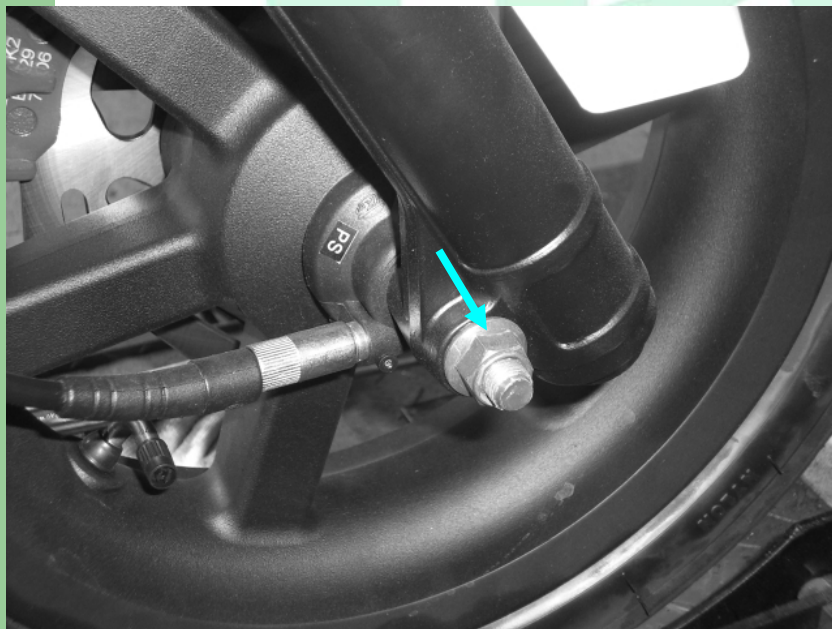
* important chassis parts

item	lock torque
nut of frt. Wheel	5.0~6.0kg-m
nut of rear. Wheel	10.0~12.0kg-m
rear cushion(upper)	3.5~4.5kg-m
rear cushion(lower)	2.0~3.0kg-m
fixing caliper bracket	2.0~3.0kg-m
fixing brake hose	2.0~3.0kg-m
bolt of hanger virus frame	4.0~5.0kg-m
nut of hanger virus engine	4.0~5.0kg-m

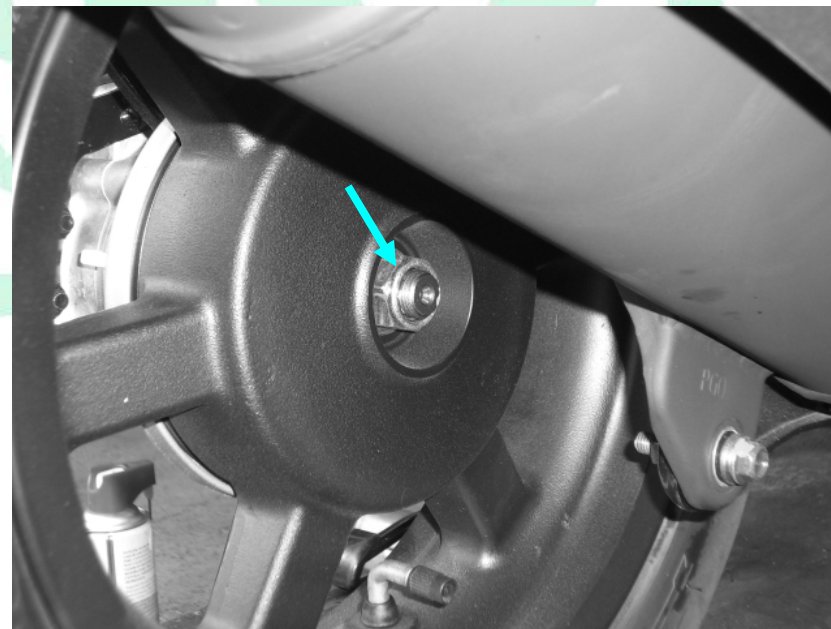


Chassis important parts

* nut of front wheel
5.0~6.0 kg-m



* nut of rear wheel
10.0~12.0 kg-m

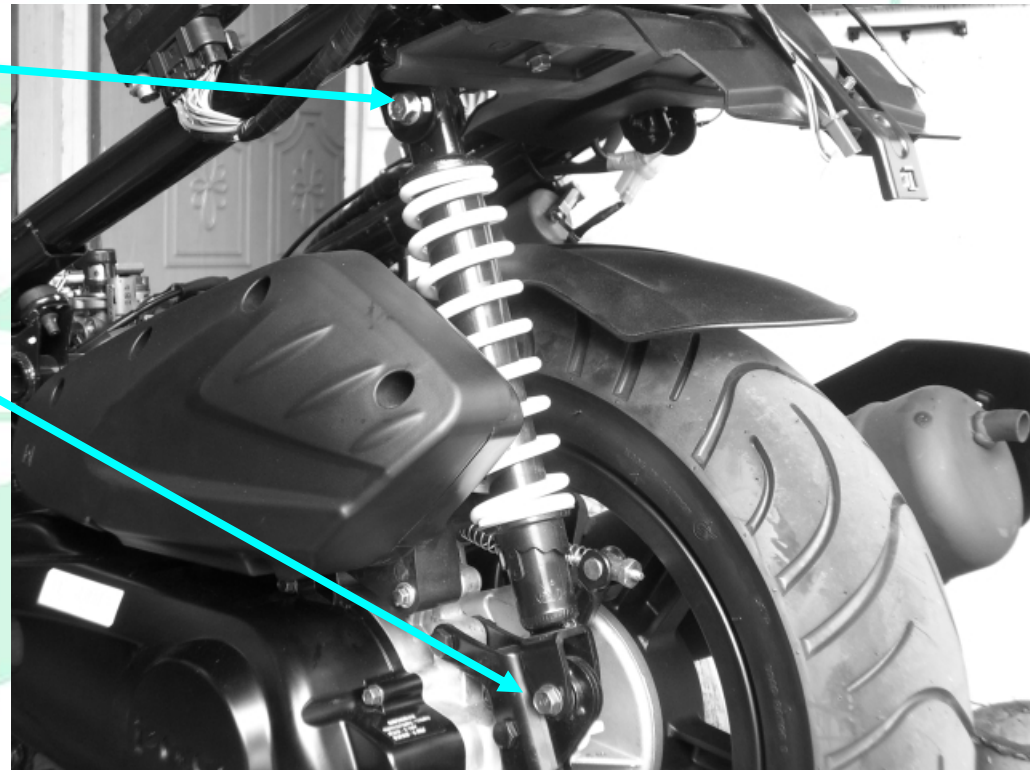




Chassis important parts

* rear cushion(upper)
3.5~4.5 kg-m

* rear cushion(lower)
2.0~3.0 kg-m

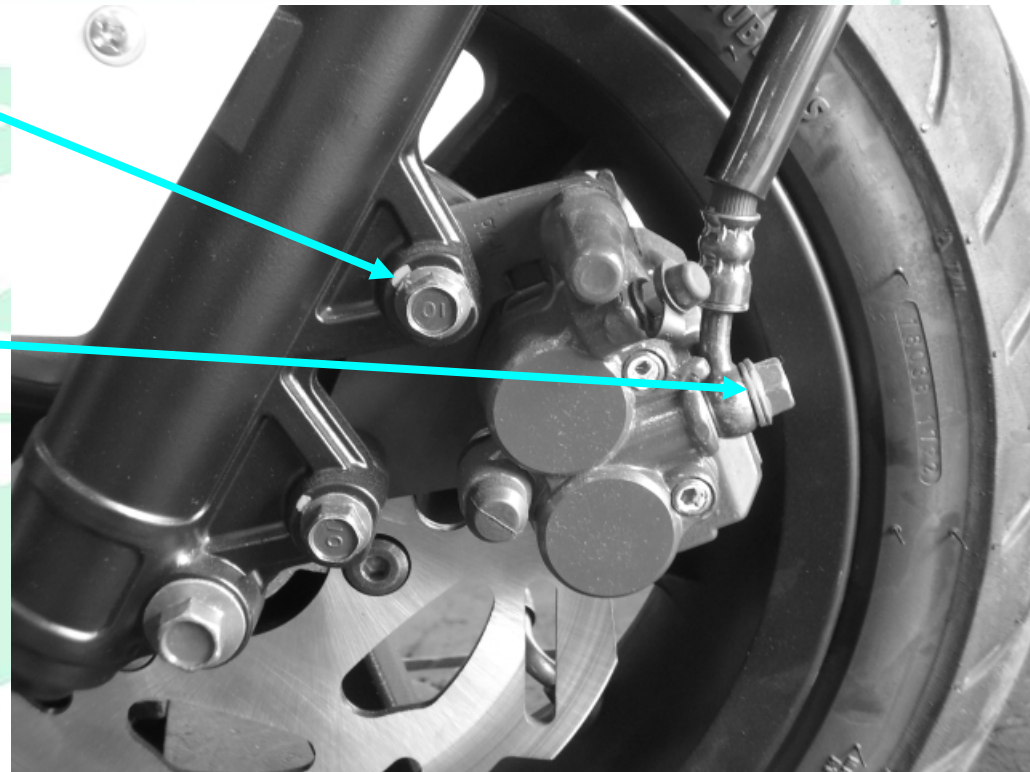




Chassis important parts

* fixing caliper bracket *2
2.0~3.0 kg-m

* fixing brake hose
2.0~3.0 kg-m



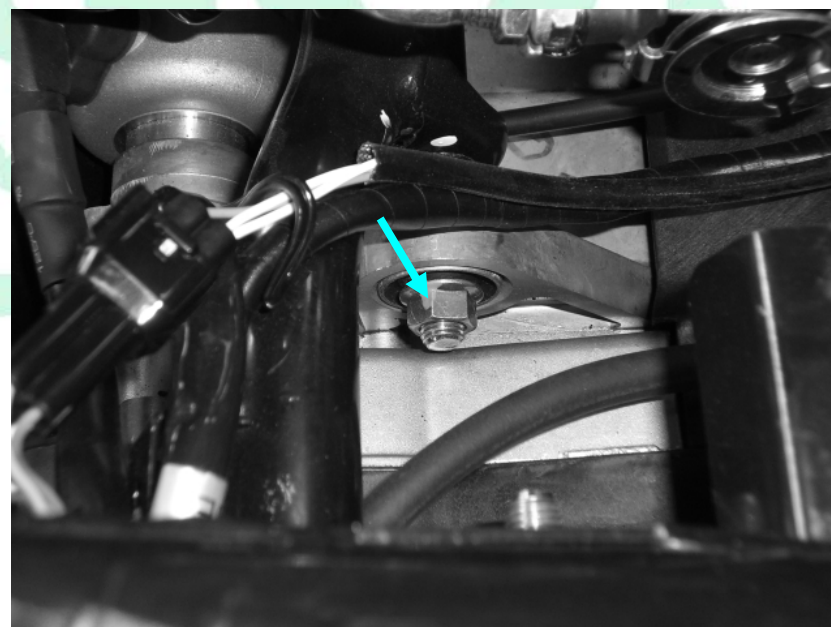


Chassis important parts

*** bolt of hanger virus frame *2**
4.0~5.0 kg-m



*** nut of hanger virus engine**
4.0~5.0 kg-m



Replace the
consuming parts



BULB OF HEADLAMP=B1

*** BULB**
HS1 12V 35W/35W



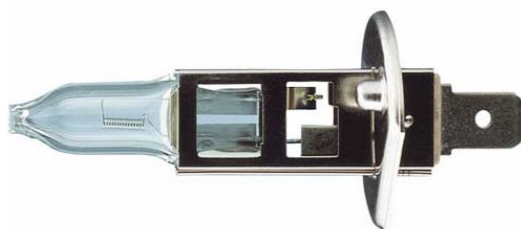


BULB OF HEADLAMP == B2

*** LOW BULB**
HS1 12V 35W

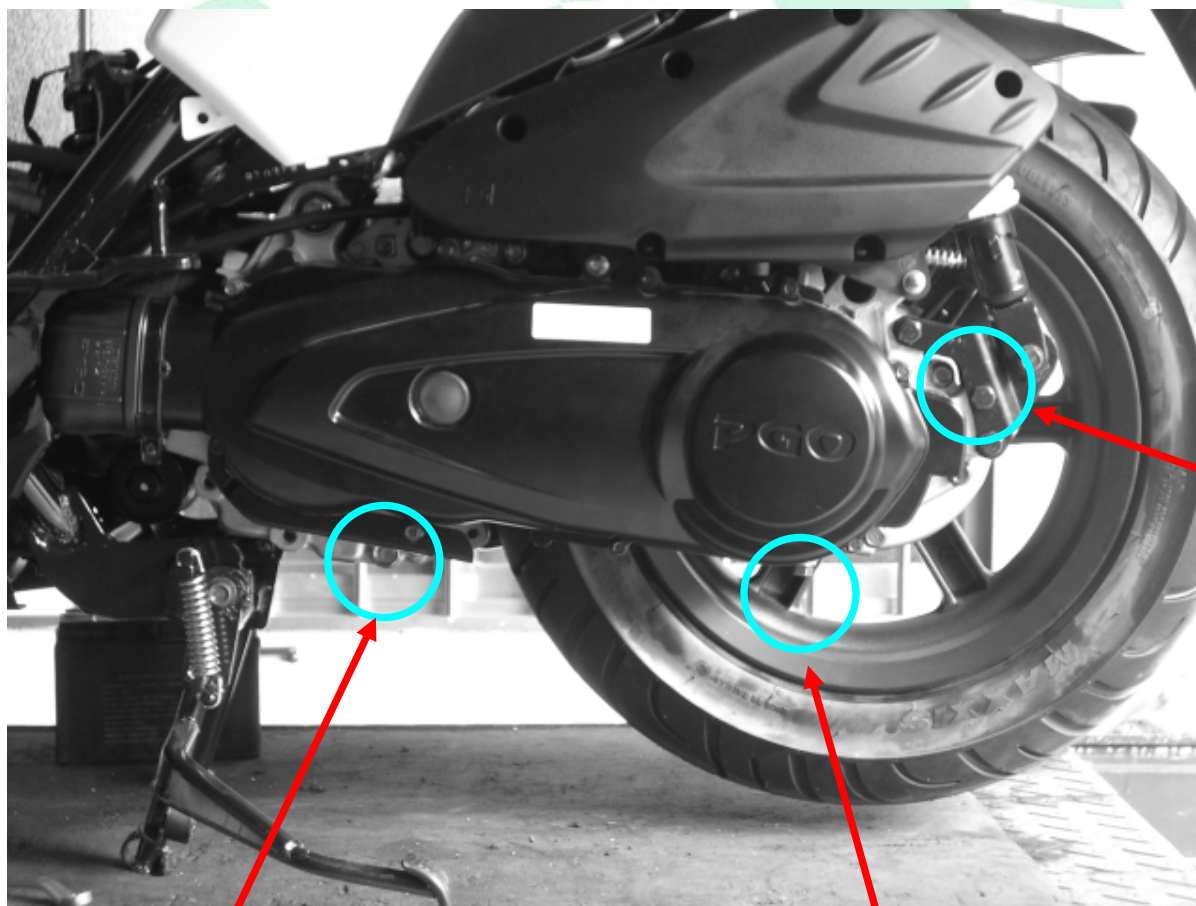


*** HIGHBEAM BULB**
H1 12V 55W





Replace Engine oil 、 gear oil



Gear oil filling cap

**replace 90cc
total 110cc**

Engine oil drain bolt

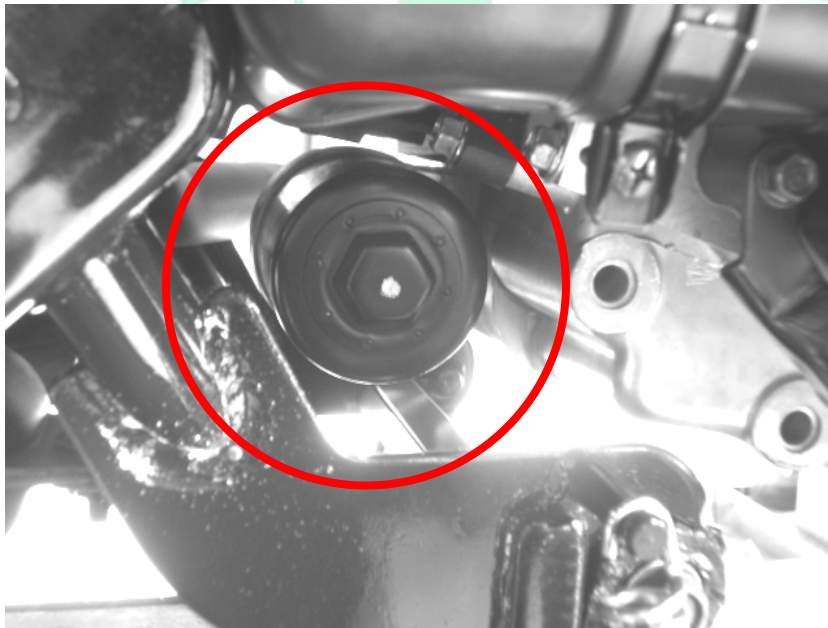
gear oil drain bolt



Replace 2nd oil filter

1. above the center stand
2. clean the seat of filter

3. replace 2nd oil filter
* apply oil to the O-ring

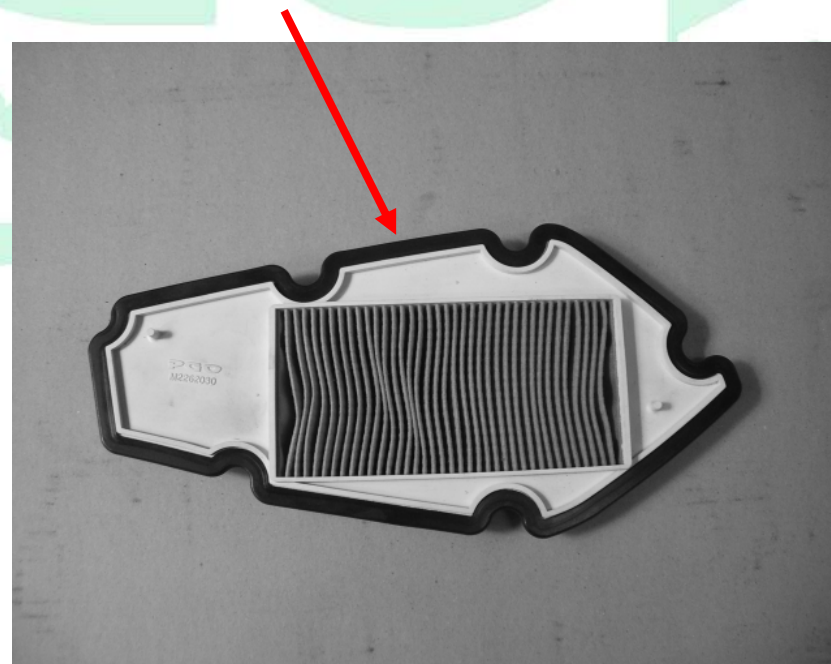
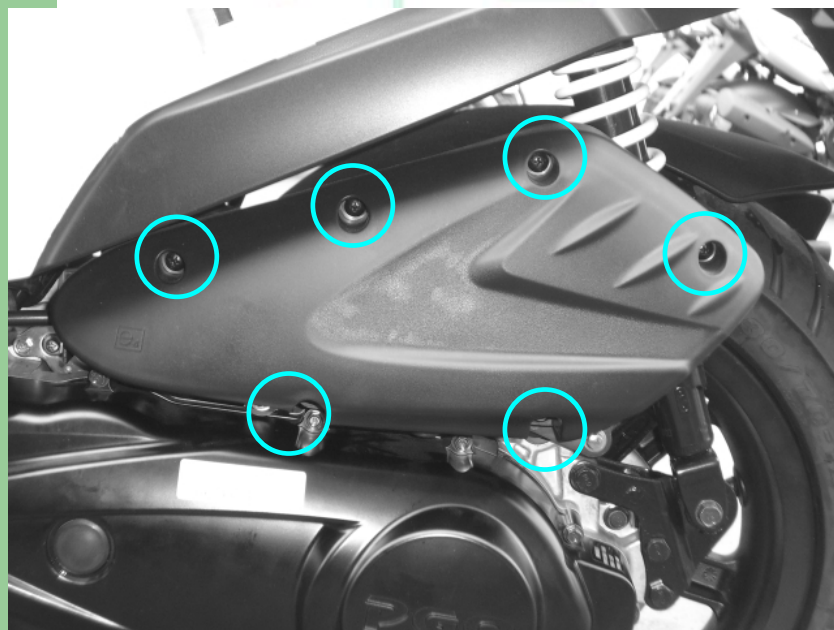




Replace air element

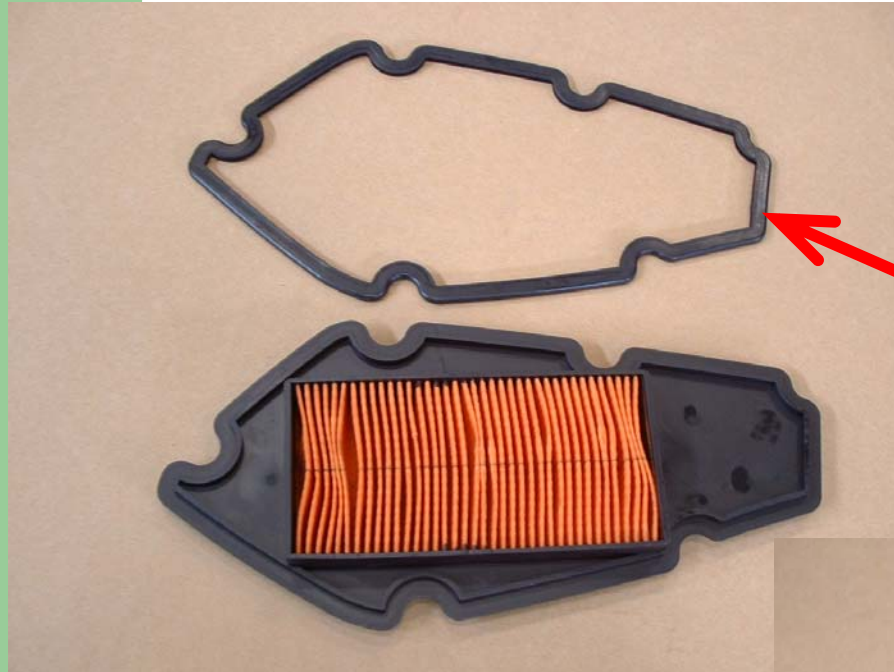
1.loosen tapping screws *6

2.take off the cover

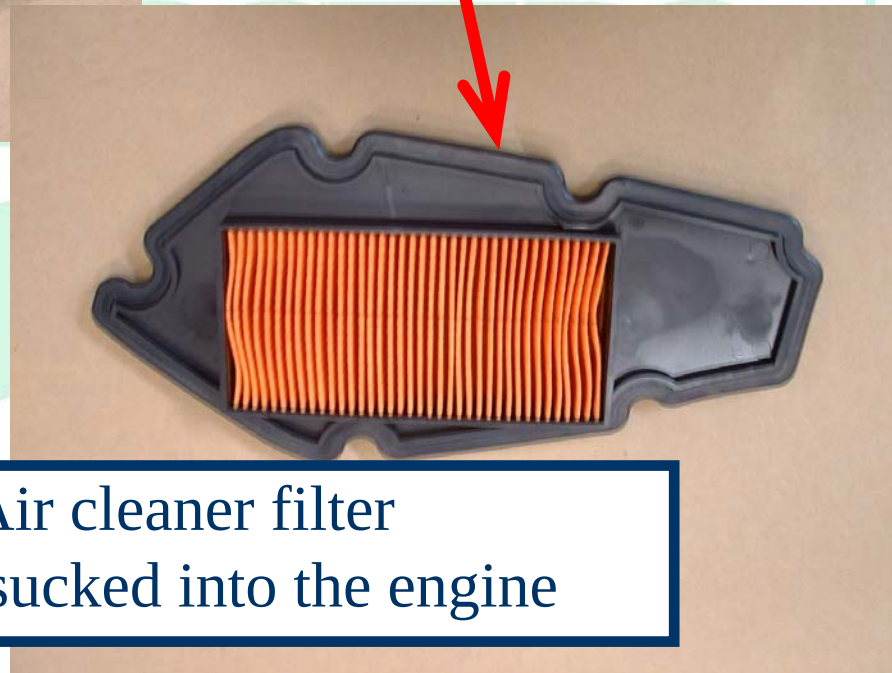




Replacement the paper element for G-Max



Rubber seal

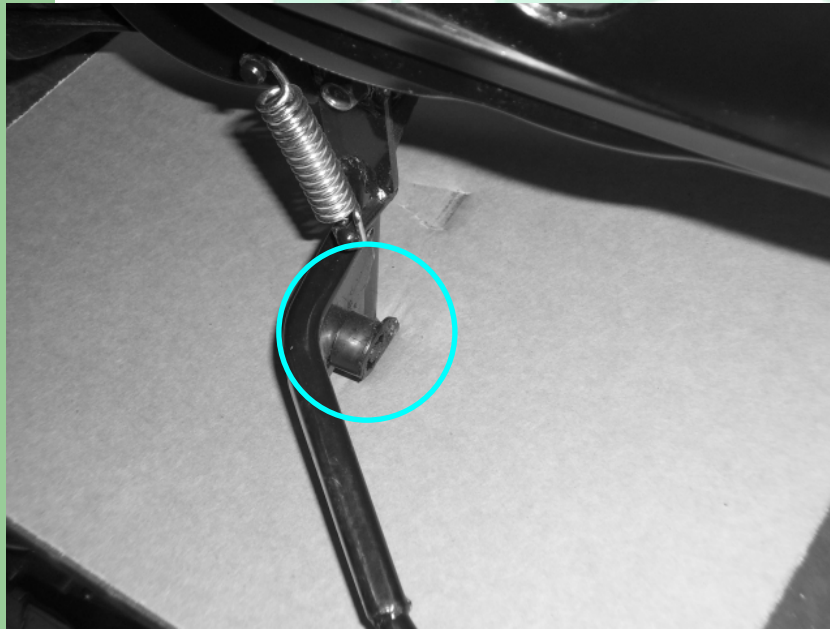


- Missing rubber seal of Air cleaner filter
- Result: the dust will be sucked into the engine

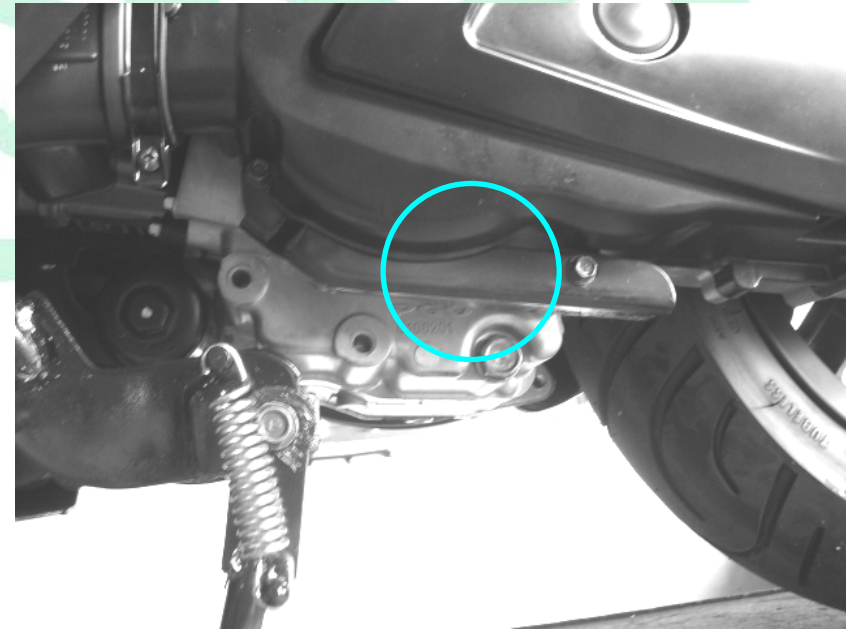


Lubricate the rubber

1. apply grease to the rubber



2. apply grease the the stopper also

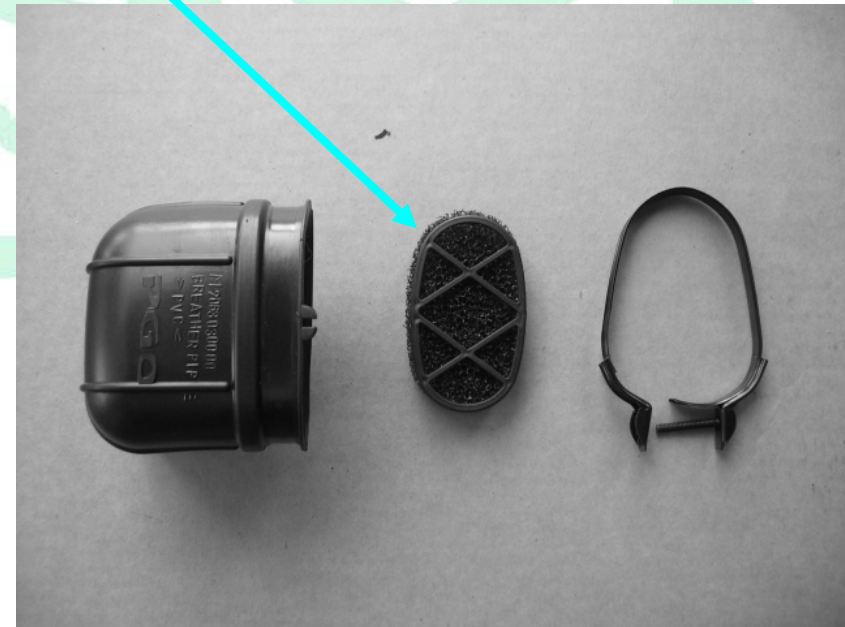




Clean or replace the CVT element

- 1.dismantle the cover
- 2.dismantle the air filter

- 3.clean or replace the element





Out of Maintenance

- LH cover: very dusty
- Result : the dust will be sucked into the CVT chamber





Out of Maintenance

- Clutch outer :full of lining & grease
- Result : transmission slipping
- V-Belt : cracked duing to worn out





Out of Maintenance

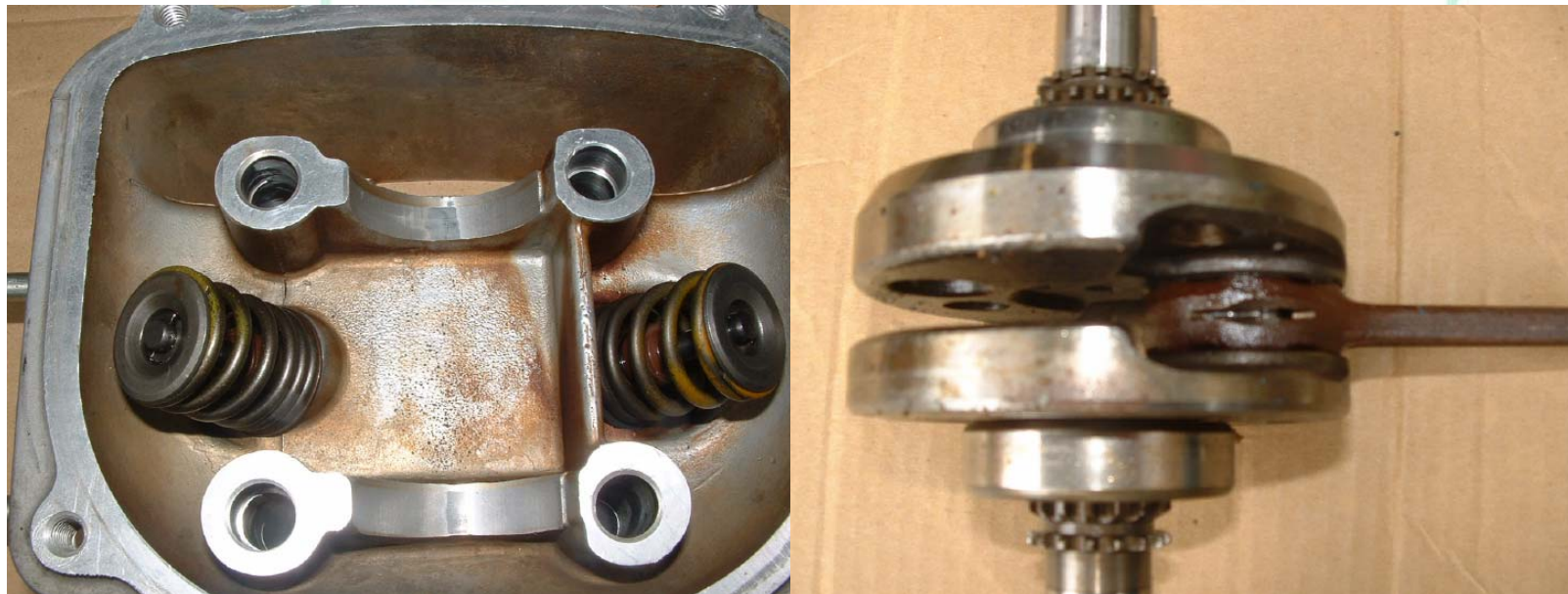
- Carburetor: poor fuel or long time reserved
- Result : pilot jet jammed & no idling





Out of Maintenance

- Cylinder head & crankshaft:
 - poor oil or lack of maintenanceResult : engine parts worn out





Out of Maintenance

- Spark plug : carbon
- Result : hard to start the engine of unstable idling



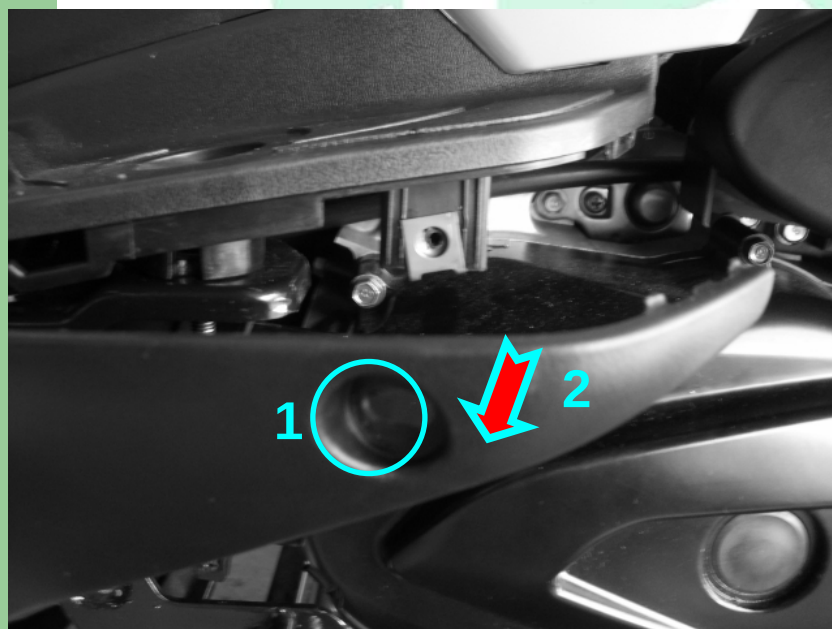
Continuous Various Transmission



Dismantle CVT

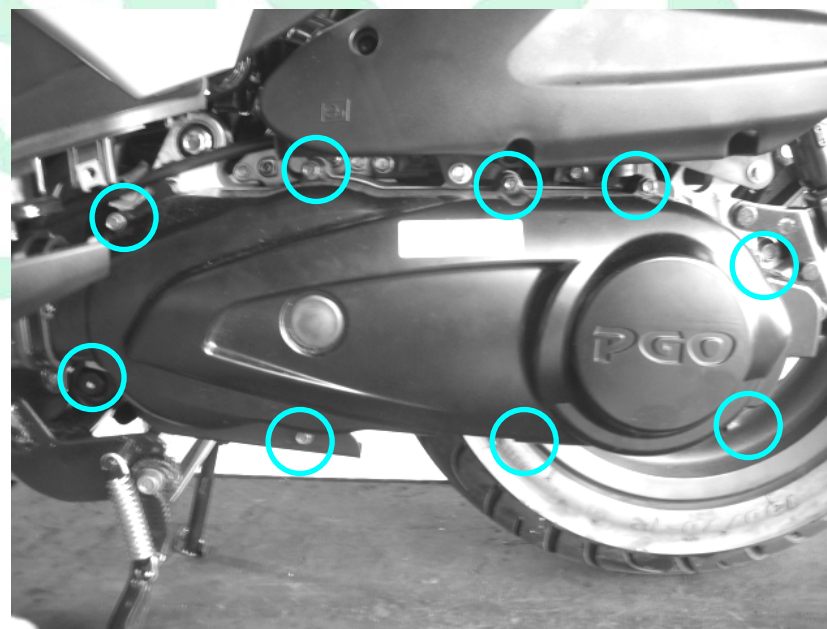
1.loosen bolt *1

2.release the engagement



3.loosen the bolts *9

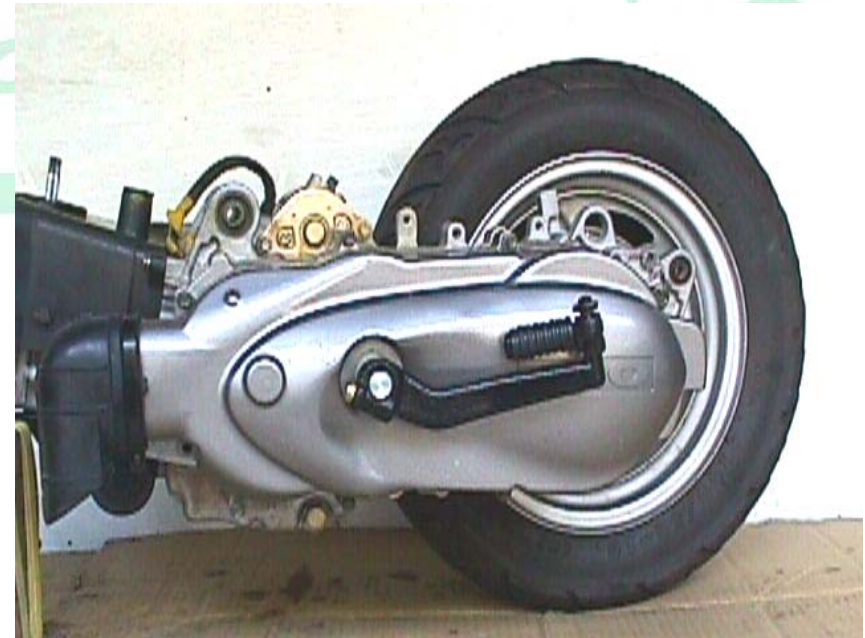
4.take off the engine cover





V-BELT REPLACEMENT (1)

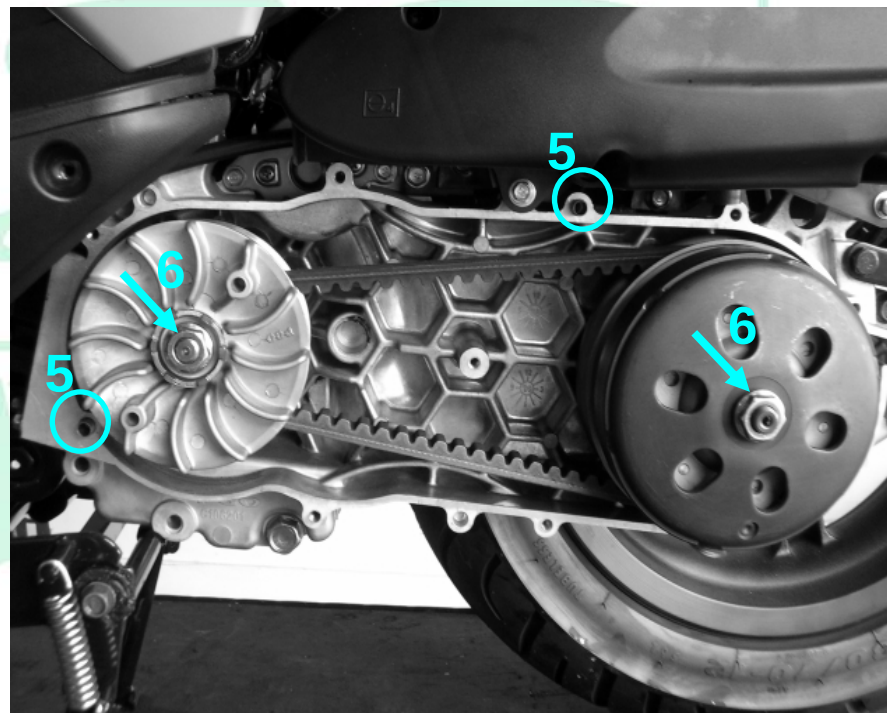
- Loosen 10 hexagon flange screws of LH cover
- Remove engine LH cover





V-BELT REPLACEMENT (2)

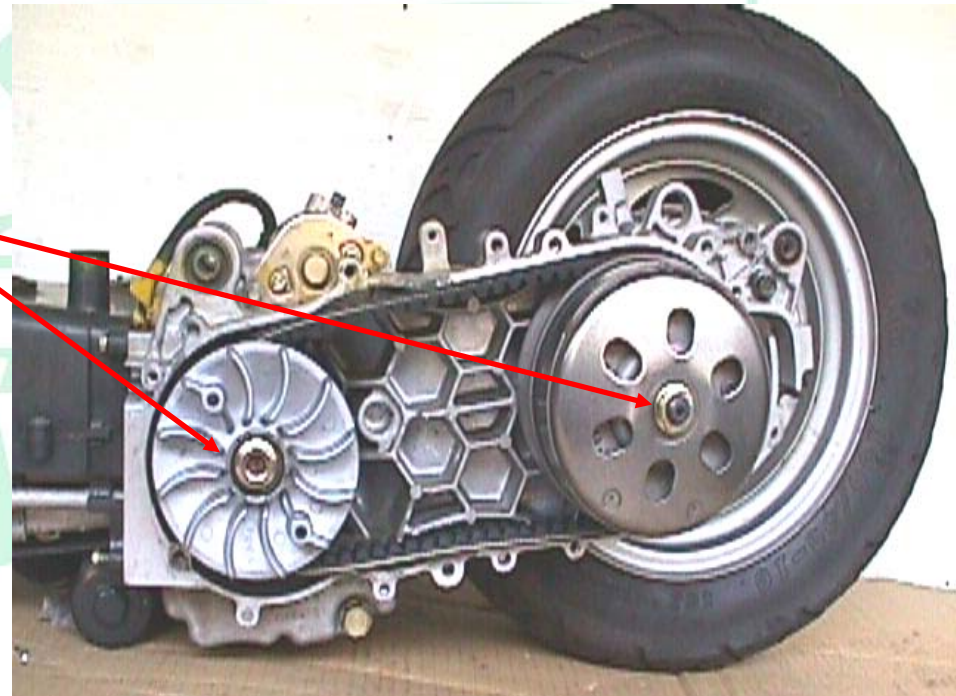
5. Check the position of piston pins; make sure those two piston pins are not loose or fall
 6. To disassemble the transmission fixing nut (the appropriate lock-up torque is 5.0-6.0 KG -M)
- * Reverse above order (6→5) when recover





V-BELT REPLACEMENT (3)

- Loosen nuts of driving pulley and clutch outer

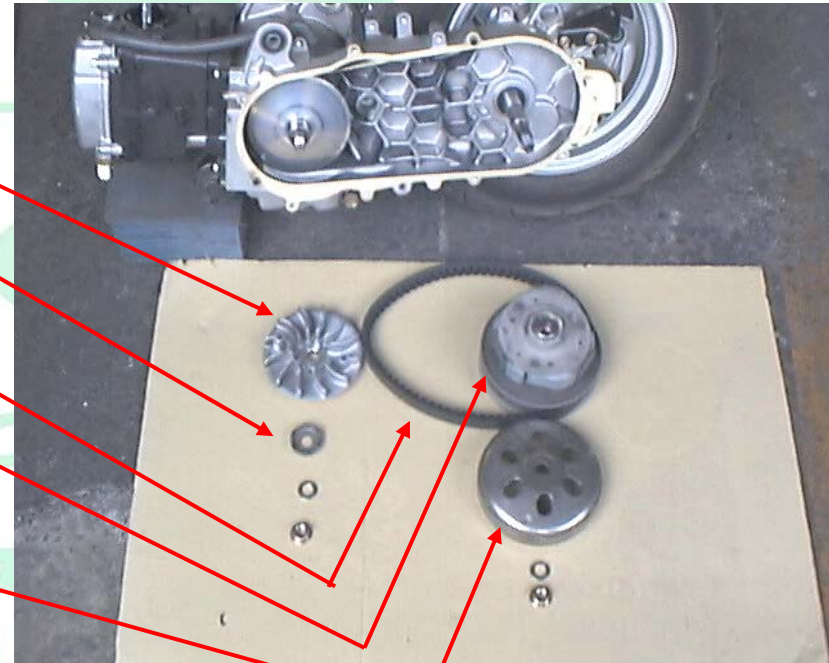




V-BELT REPLACEMENT (4)

1.Remove :

- drive face
- ratchet kick starter
- V-belt
- driven pulley assy.
- clutch outer



2.Keep the movable

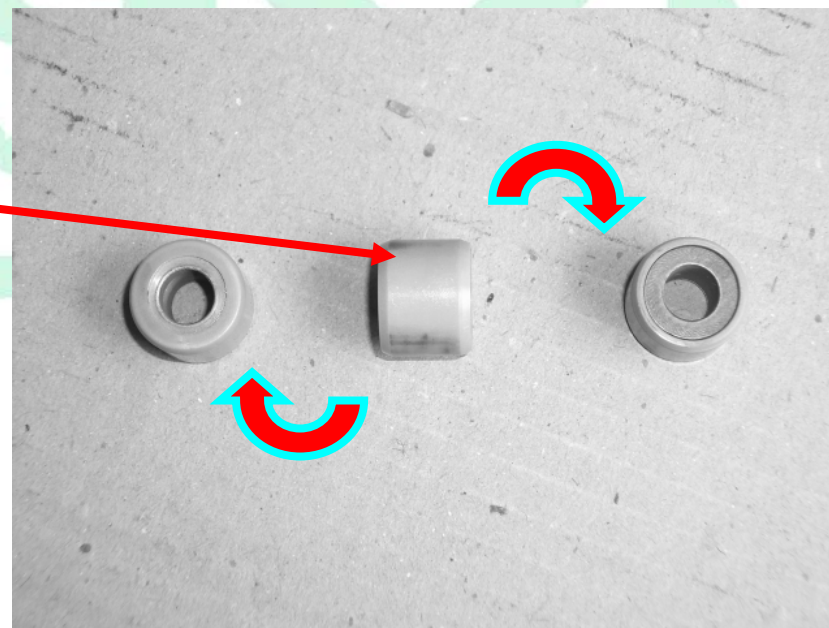
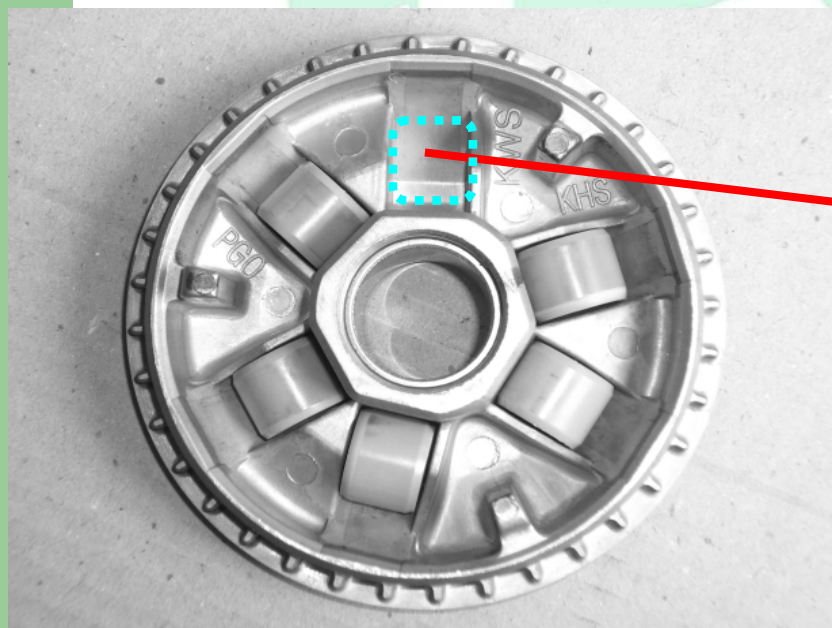
drive face & roller engage in the crankshaft, that mean take care of rollers and sliders in the right position.



Install the roller

- 1.put the driving face as below
- 2.install the upper roller

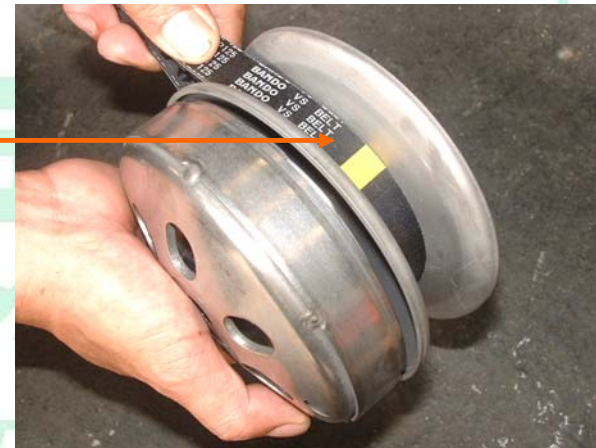
- 3.the close end face to left
- 4.install the others





V-BELT REPLACEMENT (5)

- Press the v-belt into the driven pulley as deep as possible
- Installing the v-belt, make sure the digitals face to the operator.
- Assemble the driven pulley assy first.





V-BELT REPLACEMENT (6)

- Installing the drive face & fit the ratchet kick starter to the LH crankshaft spline properly



Well engage situation



V-BELT REPLACEMENT (7)

- Installing washer & nuts, tighten torque is 5.5 kg-m

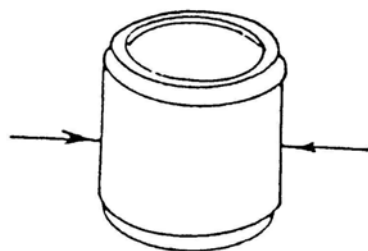


**Make sure packing situation,
then recover the LH cover & bolts.**



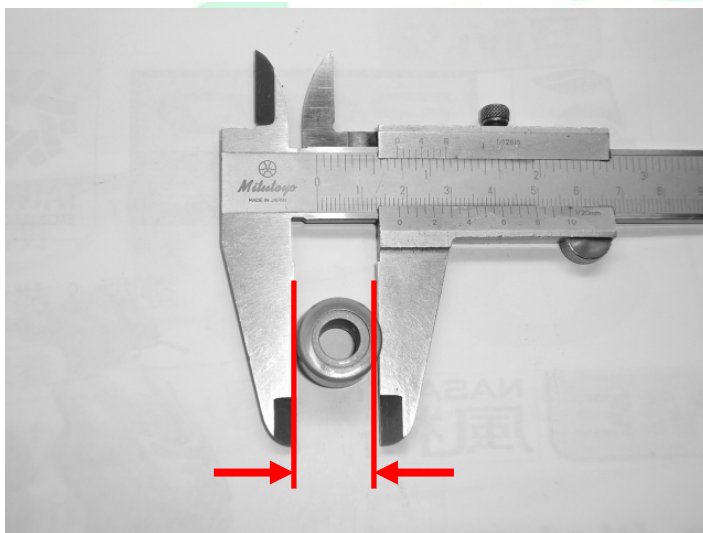
Inspect the weight roller

diameter > 17.4mm



* surface inspection

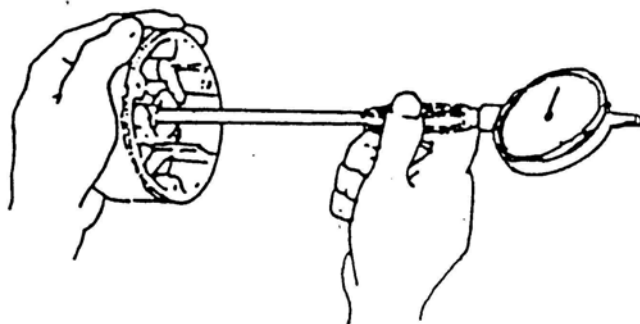
Worn out check



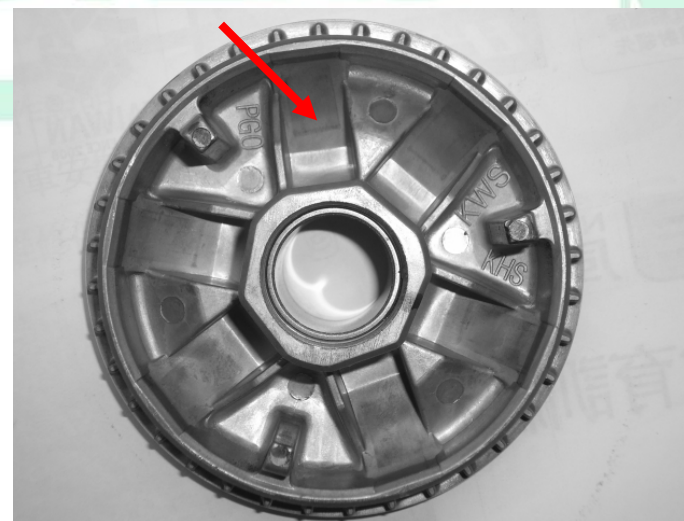
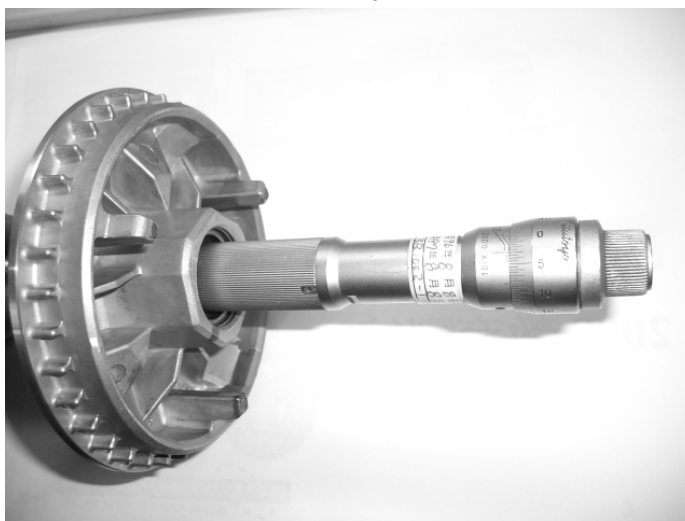


Inspect the driving face

diameter < 24.10mm



* smooth check,
worn out check

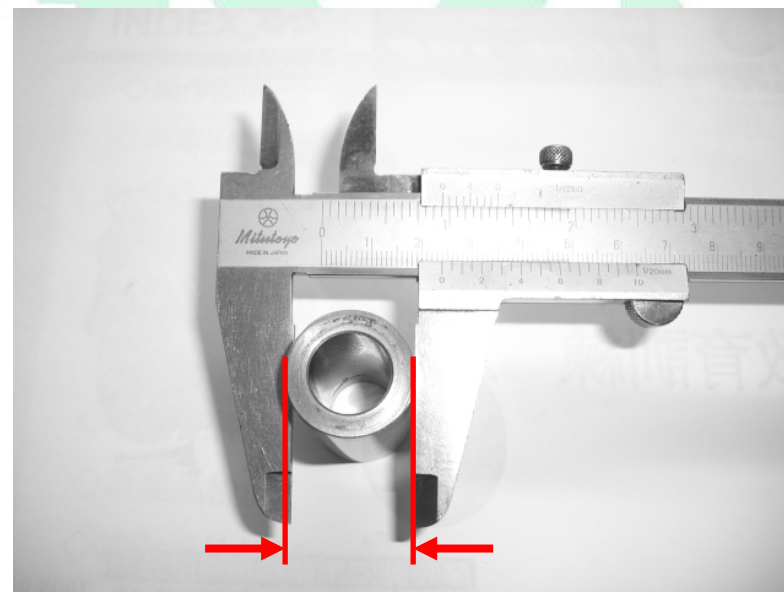
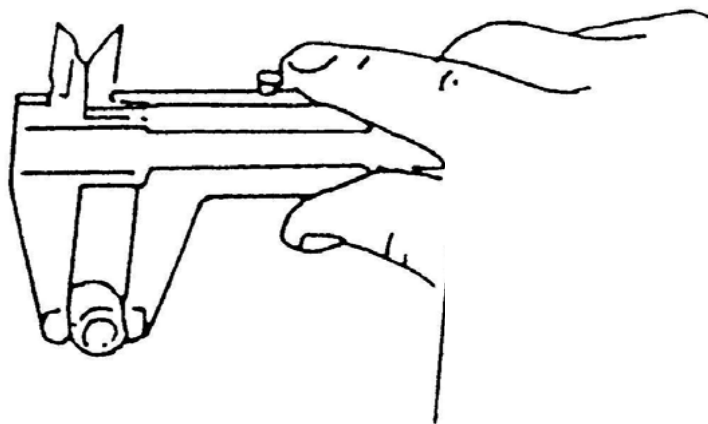




Inspect the boss

diameter > 23.94mm

* measure the outer diameter





Inspect the clutch lining

thickness > 1.5mm

* measure the thickness

